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MAR 06 2015

Form MR-REV-att (DOGM – Revise/Amend Change Form)
(Revised September 14, 2005)

DIV. OF OIL, GAS & MINING

Application for Mineral Mine Plan Revision or Amendment

Operator:	CASTLE VALLEY STONE, LLC		
Mine Name:	BROWN'S CANYON ROCK QUARRY 1	File Number:	M/ 043 / 0017

Provide a detailed listing of all changes to the mining and reclamation plan that will be required as a result of this change. Individually list all maps and drawings that are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise or amend the existing Mining and Reclamation Plan. **Include page, section and drawing numbers as part of the description.**

DETAILED SCHEDULE OF CHANGES TO THE MINING AND RECLAMATION PLAN			
			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Pages The following pages from the text: 14, 15, 18, 22 and 23.
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Surety: Bonding Calculations dated March 6, 2015
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
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I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments and obligations, herein.

Oren Gatten

Print Name

Sign Name, Position

Date

Oren Gatten Consultant
3/6/15

Return to:

State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801
Phone: (801) 538-5291 Fax: (801) 359-3940

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FOR DOGM USE ONLY:

File #: M/ /

Approved: _____

Bond Adjustment: from (\$)

to \$ _____

the landslide area during reclamation and from the proposed expansion to the east of the current main access road. See Exhibit B for the location of the expansion areas and "Landslide." Topsoil stockpiles will be protected from disturbance by seeding interim vegetation, using berms to prevent erosion by storm water and using signs and/or structural controls such as barricade stones to limit disturbance by vehicles or other equipment.

106.7 - Existing vegetation - species and amount

Vegetation - The operator is required to return the land to a useful condition and re-establish at least 70 percent of the pre-mining vegetation ground cover.

Most of the vegetation in the mine are has been disturbed by previous mining activity. The expansion area is primarily vegetated by Gambel Oak stands. The "Rock Products of Utah Vegetation and Soil Baseline Report" identified the vegetation cover of three sample sites to be 19%, 52% and 30% respectively. Rather than conduct a new survey for the expansion, ~~50~~100% is the estimate for pre-mining vegetation ground cover. The reclamation requirement is that the land be returned to a useful condition with a minimum of 70% of the pre-mining vegetation ground cover. All areas in the mine will be reclaimed with a minimum of 70% vegetation ground cover.

The percent ground cover is determined by sampling the vegetation type(s) on the areas to be mined (see Attachment 1 for suggested sampling methods).

Comment [OSG1]: Comment 3: Some of the data on page 14 was crossed out, and the commitment to achieve 70% cover was written in. Please replace this page with the corrections made and not hand written. **Noted. Corrections made.**

(a) ~~Vegetation Survey~~ — The following information needs to be completed based upon the ~~vegetation survey~~:

Sampling Method	Transect Nested plot
Number of plots or transects (Min 10)	3 Transects — 10 Plots each. Total 30
Ground Cover	Percent
Vegetation (Perennial grass, forb, and shrub cover)	30
Litter	45
Rock/rock fragments	23
Bare Ground	2
	100%
Re-vegetation Requirement (70% of above vegetation figure)	

~~List the predominant perennial species of vegetation growing in each vegetation community type.~~

~~Quercus Gambelli (Gambel Oak) — Hahonia Repens (Oregon Grape)
Galium Aparine (Bed Straw) — Elymus Spicata (Wheatgrass)
Poa Pratensis (Bluegrass)~~

~~Note, the original vegetation survey (Appendix A — NRCS Soil Profile Data) prepared in June, 2000 included transects and plots representative of the soils from Gambel Oak stands, which are representative of the current expansion area. (See Appendix A, Page 1, ¶ 7)~~

- (a) Photographs - The operator may submit photographs (prints) of the site to show existing vegetation conditions. These photographs should show the general appearance and condition of the area to be affected, and may be utilized for comparison upon reclamation of the site. Photographs should be clearly marked as to the location, orientation and the date they were taken.

~~No photos have been submitted, except those in Appendix C, Rock Products of Utah Vegetation and Soil Baseline Report.~~

Comment [OSG2]: Comment #5 The operator modified the text on February 24, 2015 to "No photos have been submitted." This statement is also incorrect as there are vegetation photos in the Vegetation and Soil Baseline Report in Appendix C. Please modify the text appropriately. **Noted, and reference is made to the photos in Appendix C.**

- 5) Measures taken to salvage and store soils to be used in reclamation - attempts will be made to salvage all soil, no matter how sparse. When moving into a new area for exploration and eventual mining, the soil will be scraped off the rock and transported to one of the topsoil storage areas. Often soil will be interspersed in the excavated rock. This soil/rock is placed in the overburden pile for eventual re-use in reclamation.
- 6) Protection of stockpiled topsoil - the topsoil will be in a "lowered" or dug out location. Soil erosion from rain, wind, snow and any other elements will be minimal.
- 7) Reclamation to be done during active mining operations prior to final closure - it is anticipated that we will fill exploratory holes/pits as we dig them and decide we will not use them. Roads that are not used will be reclaimed as long as they are not necessary for emergency access or use. We will also anticipate holding off on any larger reclamation efforts until we have about an acre of land to reclaim.

Comment [OSG3]: Comment #6 Please re-insert the paragraph regarding the "Landslide Area" from the previous submittal. **Noted. No action taken.** Paragraph was relocated to Section 106.2 (9) as directed by the Division in June 2014
"Division Comment #24 from June 2014 - As previously written, "The text needs to address how the landslide will be remediated." The plan needs to address the landslide prior to the 2014 annual report. Include a brief paragraph under the Operation Plan.
The text on page 15, item 8, should be moved from operation practices to the operation plan."

R647-4-110 - Reclamation Plan

110.1 - Current & post mining land use

Other than current mining operations, the land uses for this area has been cattle grazing and deer hunting. It is anticipated that post-mining, the land uses will continue to be cattle grazing and deer hunting.

110.2 - Roads, highwalls, slopes, drainages, pits, etc., reclaimed

- (a) Road reclamation. Roads will be graded and ripped and then re-seeded. Where necessary, holes and gouges will be filled to the level of the road bed. Final configuration is expected to be grass/oak covered.
- (b) Highwall reclamation. Highwalls shall be reclaimed and stabilized by backfilling against them or by cutting the wall back to achieve a slope angle of 45 degrees or less as required by R647-4-111.7. ~~The highwalls will be reclaimed with a maximum slope of 3H:1V. If it can be safely done, we~~ will add a mixture of overburden, topsoil and composted manure over the highwall face, which will then be seeded. Final configuration is expected to be grass covered.
- (c) Slope Reclamation. We will re-grade those slopes more than 3h:1v configuration, and add a mixture of overburden, topsoil and composted manure, then re-seed. For those slopes that consist mostly of dirt, we will re-grade as necessary and seed. Final configuration is expected to be grass covered.
- (d) Waste dumps/overburden. The only waste by-products are rock and soil mixed. This is stock-piled for use in reclamation. Where the dumps remain, will grade to less than 3h:1v, add topsoil and composted manure as necessary and seed. Final configuration is expected to be grass/oak covered.
- (e) Pits. Any pit or exploration hole will be filled with a mixture of overburden, topsoil and composted manure, smoothed and seeded. Final configuration is expected to be grass/oak covered.
- a. Other. We feel the following are not applicable to this mining operation: impoundments; drainage/natural drainage patterns; ponds; shafts; adits; drill holes; and leach pads.

Comment [OSG4]: Comment 7: In Section 110.2, (b), the text notes that the highwall will be "45 degrees or less," then the next sentence says it will have a "maximum slope of 3H:1V." These statements are inconsistent. Please make appropriate corrections.**noted**

110.3 - Description of facilities to be left (post mining use)

It is not anticipated that any surface facilities will be left after mining operations or reclamation.

110.4 - Description or treatment/disposition of deleterious or acid forming material

Deleterious materials are not present or used. Trash is collected in metal containers and removed from the site weekly. There will be no trash pit or trash receptacles remaining on the

site after mining operations have ceased.

110.5 - Revegetation planting program

(a) Soil material placement

- Volume of soils and approximate depth-Approximately 8,000CuYds at 6" deep
- Sources of soils – Local quarry sources
- Agronomic analysis - See Exhibit F-C (Vegetation and Soil Baseline Report)
- Alternative materials/amendments to be applied in lieu of soils – Addition of composted manure.
- Methods used to transport and place soils - Use of dozer/loader.

(b) Seed Bed Preparation

- Preparation of seed bed and equipment to be used - Use of dozer/loader with ripping devise, where required. Will be left rough (moon scaped). Area is not expected to be used for recreation.

(c) Seed Mixture- (Species to be seeded)

Common Name	Name Species	Rate Lbs/Acre
Thickspike wheatgrass	Agropyron Darystachum	2.0
Bluebunch Wheatgrass	Agropyron Spicatum	2.0
Intermediate Wheatgrass	Apropyron Intermedium	1.0
"Piute" Orchard Grass	Dactylis Glomerata	0.5
Basin Wildrye	Elymus Cinereus	2.0
Ladac Alfalfa	Medicaso Sativa	1.0
Yellow Sweetclover	Melilotus Officinalis	0.5
Rocky Mountain Penstemon	Penstemon Strictus	0.5
Small burnet	Sanguisorba Minor	1.5
Mountain Big Sagebrush	Artemisia Tridentata Vaseyana	0.1
Serviceberry	Amelanchier Alnifolia	1.0
Forage Kochia	Kochia Prostrata	0.5
Bitterbrush	Purshia Tridentata	1.0
	Total Lbs/Acre	13.6

(d) Seeding Method

Comment [OSG5]: Comment 8: In Section 110.5, (a) bullet 3, the text notes "Exhibit F." Please change to "Exhibit C." **Noted**

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- Broadcast seeding

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(d) Seeding Method

- Broadcast seeding

Castle Valley Stone, LLC

Revised March 6, 2015

Brown's Canyon Rock Quarry M/043/0017

Bonding Calculations

Prepared by: Oren Gatten
North American Exploration, Inc.

Direct Costs

Subtotal Demolition and Removal	\$7,965.00	
Subtotal Backfilling and Grading	\$81,416.00	
Subtotal Revegetation	<u>\$37,400.00</u>	
<u>Subtotal Direct Costs</u>	<u>\$126,781.00</u>	

Indirect Costs

Mob/Demob	\$12,678.00	10.0%
Contingency	\$6,339.00	5.0%
Engineering Redesign	\$3,170.00	2.5%
Main Office Expense	\$8,621.00	6.8%
Project Management Fee	\$3,170.00	2.5%
Subtotal Indirect Costs	<u>\$33,978.00</u>	

Total Cost 2015

\$160,759.00

Number of Years	5	
Escalation Factor	0.012	

Reclamation Cost Escalated	\$170,639.00	
Total Acres of Discurbance	29.50	Acres
Average Cost per Acre Disturbed	\$5,784.00	\$ / Acre

Bond Amount (Rounded to nearest \$1,000)
2020 Dollars

\$171,000.00

Description	Materials	RSMeans Reference #				Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell	Quantity	Unit	Cost
Delivery to Heber, Utah 48 Mile Round Trip	Transport Trailer	01	52	13	20	0800	\$12.10	Mile													48 Mile	\$581
Disposal of Material	Diamond K Waste S 670 W 84032 Heber, UT (435) 654-2321	Salvage/Recycling Center				\$0.00	Metal Trailer														1 Metal	\$0
Aggregate Conveyors (2 Pcs.)																						
Delivery to Heber, Utah Two Trips, 48 Mile Round Trip for each Conveyor	Transport Conveyors	01	52	13	20	0800	\$12.10	Mile													96 Mile	\$1,162
Disposal of Material	Diamond K Waste S 670 W 84032 Heber, UT (435) 654-2321	Salvage/Recycling Center				\$0.00	Metal Trailer														1 Metal	\$0
Portable Vibratory Screen																						
Delivery to Heber, Utah 48 Mile Round Trip	Transport Screen	01	52	13	20	0800	\$12.10	Mile													48 Mile	\$581
Disposal of Material	Diamond K Waste S 670 W 84032 Heber, UT (435) 654-2321	Salvage/Recycling Center				\$0.00	Metal Trailer														1 Metal	\$0
Jaw Crusher																						
Delivery to Heber, Utah 48 Mile Round Trip	Transport Jaw Crusher	01	52	13	20	0800	\$12.10	Mile													48 Mile	\$581
Disposal of Material	Diamond K Waste S 670 W 84032 Heber, UT (435) 654-2321	Salvage/Recycling Center				\$0.00	Metal Trailer														1 Metal	\$0
Gates and Access Controls																						
Gates Will Remain per Landowner Requirement																						\$0

Total Demolition and Disposal

\$7,965

RECLAMATION SURETY ESTIMATE

Mine Operator: Castle Valley Stone

Mine Name: Brown's Canyon Rock Quarry 1

DOGM file Number: M/043/0017

SUMMIT COUNTY, UTAH

Prepared by: Oren Gatten

North American Exploration, Inc

Last Revision

March 6, 2015

	Description	Materials	RSM	Means	Reference #	Unit Cost	Unit	Length	Width	Height	Diameter	Acres	Volume	Weight	Density	Time	Number	Unit	Swe II	Quantity	Unit	Cost
Earth Work																						
Backfilling and Grading																						
Site Reclamation																						
	Rip Roads 24" deep with Dozer and 3 Ripping Teeth, 3 passes totaling 7.4cy ripping per 100' of road.	Ripping, Till, Medium Hard, 300Hp Dozer, Adverse Conditions.	31	23	16	32	0020											111 B.C.Y.		111 B.C.Y.		\$480
	Grading of roads and compacted areas after ripping to blend at contours not to exceed 3H:1V. There are 500 lineal feet of road, averaging 20 feet in width.	Finish grading, Steep Slopes	31	23	16	10	3310											1,100 S.Y.		1,100 S.Y.		\$286
	High Wall Reclamation: The total acreage of project disturbance is 30.1 acres. This includes the high wall, but the operator may choose not to reclaim the highwall for safety reasons. During operation, the overall slope of the highwall will be 1H:1V or less, so no cut back of the wall is planned.																					
	Slope Reclamation: Mine and waste areas are required to be maintained with 3H:1V maximum slopes during operation. A dozer will be used to blend uneven slopes to more natural contours using loose mine run and waste material. This will be done concurrently with topsoil distribution. Estimated volume of material to be pushed for recontouring is 20 cubic yards per acre.	Dozer or Front End Loader, 300 H.P., 300' Haul, Common Earth	31	23	23	14	5420					37.4						748 B.C.Y.		748 B.C.Y.		\$1,631
	Use 11cy elevating scraper to move and distribute stockpiled growth medium to areas which are greater than 300 feet from the source stockpile.	Elevating Scraper, Sandy Clay and Loam, 1500' haul.	31	23	16	48	0410					9.0						7,260 B.C.Y.		7,260 B.C.Y.		\$31,363
	Topsoil Distribution Over 27.1 Acres (Total disturbance of 37.4 acres less 3.0 acres of soil stockpiles, 1.3 acres highwall, 9 acres beyond 300' and 3.0 acres of landslide)	Dozer or Front End Loader, 300 H.P., 300' Haul, Common Earth	31	23	23	14	5420					27.1						21,861 B.C.Y.		21,861 B.C.Y.		\$47,656

RECLAMATION SURETY ESTIMATE

Mine Operator: Castle Valley Stone

Mine Name: Brown's Canyon Rock Quarry 1

DOGM file Number: M/043/0017 SUMMIT COUNTY, UTAH

Prepared by: Oren Gatten

North American Exploration, Inc

Last Revision March 6, 2015

	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell	Quantity	Unit	Cost
Revegetation - Amendments and Reseeding																				
	DOGM Revegetation	\$1,000/Acre Standard		\$1,000.00	Acre										37.4	Acre		37.4	Acre	\$37,400

Total Revegetation, Amendments and Reseeding

\$37,400

Castle Valley Stone, LLC

Revised March 6, 2015

Brown's Canyon Rock Quarry M/043/0017

Bonding Calculations

Prepared by: Oren Gatten
North American Exploration, Inc.

Direct Costs

Subtotal Demolition and Removal	\$7,965.00	
Subtotal Backfilling and Grading	\$81,416.00	
Subtotal Revegetation	<u>\$37,400.00</u>	
<u>Subtotal Direct Costs</u>	<u>\$126,781.00</u>	

Indirect Costs

Mob/Demob	\$12,678.00	10.0%
Contingency	\$6,339.00	5.0%
Engineering Redesign	\$3,170.00	2.5%
Main Office Expense	\$8,621.00	6.8%
Project Management Fee	\$3,170.00	2.5%
Subtotal Indirect Costs	<u>\$33,978.00</u>	

<u>Total Cost 2015</u>	<u>\$160,759.00</u>	
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Number of Years	5	
Escalation Factor	0.012	

Reclamation Cost Escalated	\$170,639.00	
Total Acres of Disturbance	29.50	Acres
Average Cost per Acre Disturbed	\$5,784.00	\$ / Acre

Bond Amount (Rounded to nearest \$1,000)
2020 Dollars

\$171,000.00

Description	Materials	RSMeans Reference #					Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell	Quantity	Unit	Cost
Delivery to Heber, Utah 48 Mile Round Trip	Transport Trailer	01	52	13	20	0800	\$12.10	Mile														48 Mile	\$581
Disposal of Material	Diamond K Waste 2214 S 670 W Heber, UT 84032 (435) 654-2321	Salvage/Recycling Center					\$0.00	Metal Trailer														1 Metal	\$0
Aggregate Conveyors (2 Pcs.)																							
Delivery to Heber, Utah Two Trips, 48 Mile Round Trip for each Conveyor	Transport Conveyors	01	52	13	20	0800	\$12.10	Mile														96 Mile	\$1,162
Disposal of Material	Diamond K Waste 2214 S 670 W Heber, UT 84032 (435) 654-2321	Salvage/Recycling Center					\$0.00	Metal Trailer														1 Metal	\$0
Portable Vibratory Screen																							
Delivery to Heber, Utah 48 Mile Round Trip	Transport Screen	01	52	13	20	0800	\$12.10	Mile														48 Mile	\$581
Disposal of Material	Diamond K Waste 2214 S 670 W Heber, UT 84032 (435) 654-2321	Salvage/Recycling Center					\$0.00	Metal Trailer														1 Metal	\$0
Jaw Crusher																							
Delivery to Heber, Utah 48 Mile Round Trip	Transport Jaw Crusher	01	52	13	20	0800	\$12.10	Mile														48 Mile	\$581
Disposal of Material	Diamond K Waste 2214 S 670 W Heber, UT 84032 (435) 654-2321	Salvage/Recycling Center					\$0.00	Metal Trailer														1 Metal	\$0
Gates and Access Controls																							
Gates Will Remain per Landowner Requirement																							\$0

Total Demolition and Disposal

\$7,965

RECLAMATION SURETY ESTIMATE

Mine Operator: Castle Valley Stone

Mine Name: Brown's Canyon Rock Quarry 1

DOGM file Number: M/043/0017

SUMMIT COUNTY, UTAH

Last Revision

March 6, 2015

Prepared by: Oren Gatten

North American Exploration, Inc

	Description	Materials	RSMears Reference #				Unit Cost	Unit	Length	Width	Height	Diameter	Acres	Volume	Weight	Density	Time	Number	Unit	Swe II	Quantity	Unit	Cost
Earth Work																							
Backfilling and Grading																							
Site Reclamation																							
	Rip Roads 24" deep with Dozer and 3 Ripping Teeth, 3 passes totaling 7.4cy ripping per 100' of road.	Ripping, Till, Medium Hard, 300Hp Dozer, Adverse Conditions.	31	23	16	32	0020	\$4.32 B.C.Y.											111 B.C.Y.			111 B.C.Y.	\$480
	Grading of roads and compacted areas after ripping to blend at contours not to exceed 3H:1V. There are 500 lineal feet of road, averaging 20 feet in width.	Finish grading, Steep Slopes	31	23	16	10	3310	\$0.26 S.Y.											1,100 S.Y.			1,100 S.Y.	\$286
	High Wall Reclamation: The total acreage of project disturbance is 30.1 acres. This includes the high wall, but the operator may choose not to reclaim the highwall for safety reasons. During operation, the overall slope of the highwall will be 1H:1V or less, so no cut back of the wall is planned.																						
	Slope Reclamation: Mine and waste areas are required to be maintained with 3H: 1V maximum slopes during operation. A dozer will be used to blend uneven slopes to more natural contours using loose mine run and waste material. This will be done concurrently with topsoil distribution. Estimated volume of material to be pushed for recontouring is 20 cubic yards per acre.	Dozer or Front End Loader, 300 H.P., 300' Haul, Common Earth	31	23	23	14	5420	\$2.18 B.C.Y.					37.4						748 B.C.Y.			748 B.C.Y.	\$1,631
	Use 11cy elevating scraper to move and distribute stockpiled growth medium to areas which are greater than 300 feet from the source stockpile.	Elevating Scraper, Sandy Clay and Loam, 1500' haul.	31	23	16	48	0410	\$4.32 B.C.Y.					9.0						7,260 B.C.Y.			7,260 B.C.Y.	\$31,363
	Topsoil Distribution Over 27.1 Acres (Total disturbance of 37.4 acres less 3.0 acres of soil stockpiles, 1.3 acres highwall, 9 acres beyond 300' and 3.0 acres of landslide)	Dozer or Front End Loader, 300 H.P., 300' Haul, Common Earth	31	23	23	14	5420	\$2.18 B.C.Y.					27.1						21,861 B.C.Y.			21,861 B.C.Y.	\$47,656

Total Backfilling and Grading \$81,416

RECLAMATION SURETY ESTIMATE

Mine Operator: Castle Valley Stone

Mine Name: Brown's Canyon Rock Quarry 1

DOGM file Number: M/043/0017 SUMMIT COUNTY, UTAH

Prepared by: Oren Gatten
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Last Revision March 6, 2015

	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell	Quantity	Unit	Cost
Revegetation - Amendments and Reseeding																				
	DOGM Revegetation	\$1,000/Acre Standard		\$1,000.00	Acre										37.4	Acre		37.4	Acre	\$37,400

Total Revegetation, Amendments and Reseeding \$37,400